coffee wakes up the world

Service manual

Coffee Machine

presto!

English

03.02.001

Series 1400 Edition 08.2007

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1 Customer setup

Condition
Machine is reset to customer setup

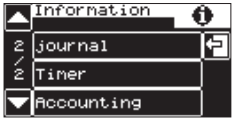
Reset automatic customer setup. See general information in the training manual Part 5 Service

- ✻ Display-guided setup according to brief instructions. Check correct setting of water hardness or descaling filter and range of descaling filter.
- ✻ If necessary update software to latest version (laptop program KonfigTool required)
- ✻ Adjust boiler temperature and beverages according to customer specifications
- ✻ (Customer Settings ▷ recipes/buttons, service program ▷ beverage data or KonfigTool ▷ beverage data)
- ✻ Enter service point (KonfigTool required)
- ✻ Store data in service memory (service program ▷ machine data ▷ standards ▷ customer→Service)
- ✻ Backup machine data in laptop memory

After setup, the service technician must note the following statement in the assembly invoice:
"At the end of operation, had to be turned off at source. The user manual and accessories were given to the customer."
The customer must acknowledge this by his signature.

2 Software service info

2.1 Software service info overview



2.2 Notes for service info

2.2.1 Where is specific maintenance information displayed?

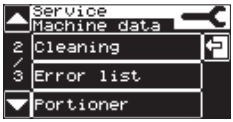
- Setup start date ▷service
- Date of next maintenance ▷service
- Next descaling ▷ care ▷ info descaling
- Next filter change ▷ care ▷ Info filter
- Additional maintenance counters under ▷ machine data ▷ counters ▷ brewer

2.2.2 Where is cleaning info displayed?

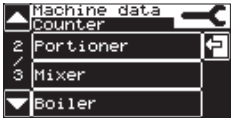
- Time elapsed since last cleaning ▷ care ▷ info cleaning (How long since last cleaning.)
- Last 100 cleaning operations with date and time ▷ care ▷ report

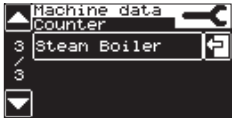
3 Software machine data

3.1 Machine data overview



3.2 submenu counter



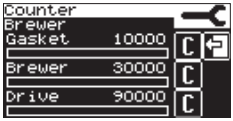


3.2.1 Maintenance counters overview

Up to software version 3.1.1:
The limits of the counters cannot be set.
From software version 3.2.1:
The limit for customer check-up can be set to 15,000 brewings by KonfigTool.

Machine maintenance counters (always valid)

Counters relevant to the maintenance information in the brewer menu.

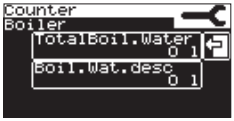


Customer check-up (10,000 brewings)
Maintenance service (30,000 brewings)
Revision (90,000 brewings)

Reset by tapping on the respective line

Mixer maintenance counter

Counter relevant to the mixer maintenance information in mixer menu (maintenance message only in Key Operator mode).

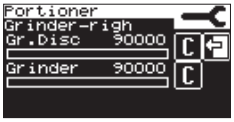


Mixer maintenance (18,000 cycles)
1 choc cycle counts 3
1 topping cycle counts 1

Switching off service messages via KonfigTool page service dates (from version 03.02.01)

Grinder maintenance counter

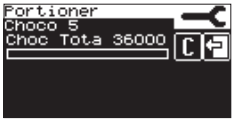
Counter relevant to grinder maintenance in portioner menu (maintenance message only displayed in Key Operator mode).



Control display for grinder disk
For the maintenance report

Choc portioner maintenance counter

Counter relevant to choc portioner maintenance in portioner menu (maintenance message is only displayed in Key Operator mode).

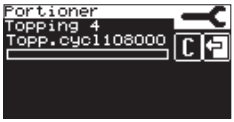


Choc maintenance (36,000 dosages)

Topping portioner maintenance counter

Counter relevant to topping portioner maintenance in portioner menu (maintenance message is only displayed in Key Operator mode).

Topping contains no sugar. Thus the portioner contains four times more dosages than choc.



Topping portioner maintenance (108,000 dosages).

With twin topping, the portioner and the motor should be replaced as soon as the first counter for choc or topping reaches the limit.

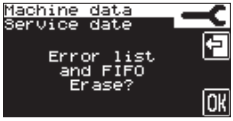
3.3 Last maintenance date submenu

The service date does not lead to a maintenance message.

Enter maintenance date

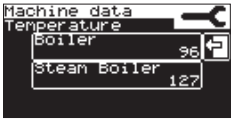
Set interval for customer check-up

After entering service date the following requests are displayed:



See chapter Error list

3.4 Temperature submenu



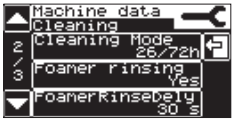
Setting range 85- 100°C, default 96° C

Setting range 110 to 130° C, default 127° C

Changing the steam boiler temperature leads to great changes in the dosage of milk and milk foam. Changes are not recommended.

3.5 submenu cleaning

Number of cleanings performed and to be performed
Number of mixer rinsings performed
Number of milksystem cleanings performed



Time until request for cleaning/forced cleaning
Hardware for foamer rinsing available?
Delay in foamer rinsing after last beverage dispensing

Switch warning signal before foamer rinsing on/off

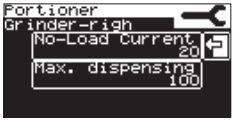
3.6 submenu error list

Delete individual errors: tap on the line
Delete complete error memory: tap C

Malfunction and events list see chapter Error list

3.7 submenu portioner

Example right grinder



Idling current (determined via service routine)''
Maximum dosage amount in 1/10 seconds

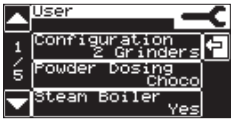
Only the maximum dosage amount can be set for the powder portioner (default 150). A detection of the idling current is not possible.

3.8 submenu standards factory→service/customer

After tapping "self-detect" is first run automatically. All components operating on 24 V or 30 V are automatically addressed. The components are automatically identified.

During self-detect the grounds container must be in place, the adjustable screen closed or the 24/30 V circuits of the components are interrupted.

Factory→service/customer menu 1



Configuration of grinders
Configuration of powder portioner
Steam boiler existent

Configuration of grinders is registered automatically (see chapter portioner).
Configuration of powder portioner is registered automatically (see chapter portioner).
Steam boiler is registered automatically by its intake valve (See chapter boiler ▷water system).

See chapter engineering, portioner in the training manual
See chapter engineering, boiler/steam boiler in the training manual Part 2 Engineering

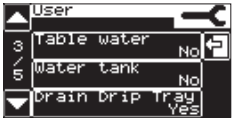
Factory→service/customer menu 2

Steam dispensing valve existent
Fresh milk valve (cappuccino valve) existent
Aquaflex

Steam dispensing valve is automatically detected
(See chapter boiler ▷water system)
Milk is automatically detected
(See chapter boiler ▷water system)
Aquaflex The machine can be operated as fresh water or water tank version by the customer. This option can only be set if water tank was detected as "no".

See chapter Boiler water systems in the training manual Part 2 Engineering

Factory→service/customer menu 3



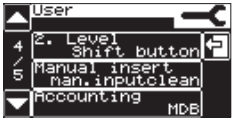
Must be set to "no" (not applicable for version >03.02.01)
Water tank existent?
Drip drain existent? (changes cleaning and descaling)

Table water may not be set, only existent in software versions 3.1.1 and 3.2.1 (was not further pursued and developed)

Water tank is automatically detected by nonexistent intake valve (no = water tank machine)
(See chapter boiler ▷water system)
Drain of drip tray must be correctly adjusted manually.

See chapter Boiler water systems
See chapter dripping-pan
in the training manual
Part 2 Engineering

Factory→service/customer menu 4



Beverages configured on 2 levels
Manual insert for coffee and cleaning or cleaning only
Accounting via accessory device via MDB or serial connection

It only makes sense to adjust the **2. level** if milk is available.
Tablet insert ("Handrein") must be set manually for more than 2 portioners, for up to two portioners manual insert coffee (HandKaff)
Accounting must be set manually
(MDB or serial connection)

See user manual and additional user manual for accounting.

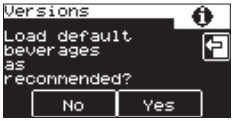
Factory→service/customer menu 5

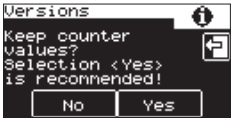
Operating mode grounds container: external = grounds disposal through counter
Preselect-button for decaf brewing instead of steam button (from 03.02.01)
Accept

Grounds disposal through counter must be correctly set manually. (default = internal)
Decaf must be set manually.
Safety queries follow **acceptance**.

See user manual

Safety queries upon acceptance of the variations:





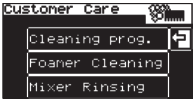
The counters should only be reset in exceptional cases. If a portioner was added or set to "decaf" the factory default settings for the beverages should be used.

3.9 submenu Key Operator

Key Operator mode

If the Key Operator mode has been activated in machine data by the factory or the authorized maintenance point the machine automatically reports the individual components to be prophylactically exchanged due to wear.

The Key Operator also has access to maintenance routines, component tests and the counters in the machine data. This access is protected by a customer check-up PIN.



Key Operator: YES

Only cleaning procedures are available in the care menu

Additional Customer service PIN with Key Operator = YES

If Key Operator is activated only the cleaning cycles are available to the customer.
Customer check-up, filter change and filter rinsing are available in the "service routines" menu.

Maintenance messages in Key Operator mode

Customer check-up

Maintenance after 10,000 / 15,000 brewings
Tasks to be performed analogy to customer check-up

Reset with C on display counter see machine data
▷ counter ▷ brewer ▷ gasket

or

Menu Care ▷ Customer check-up

Service-maintenance

Maintenance after 30,000 brewings
The following components are to be replaced:
- Brewing unit
- Brewing valve
- Release valve
- Hot water valve
- Safety valves

Optional:
- Cappuccino valve

Reset with C on display counter
Counters see machine data
▷ counter ▷ brewer ▷ brewer

Revision
Maintenance after 90,000 brewings
Depending on qualification this maintenance is performed by the WMF service or by the central unit.

Reset with C on display
Counter see machine data
▷ counter ▷ drive

Maintenance after 90,000 grindings
Parts to be replaced:
- the respective grinder
- the grinder drive

Reset with C on display Counter see machine data
▷ counter ▷ portioner

Maintenance after 6,000 portionings choc
Maintenance after 18,000 portionings topping
Parts to be replaced:
- the mixer unit
- the mixer valve

Reset with C on display counter see machine data ▷ Counter▷ Mixer

In choc the counter counts 3 units per operation so that the wear limit of both versions is at the counter reading of 18,000.

Maintenance after 36,000 portionings choc
Maintenance after 108,000 portionings topping
Parts to be replaced:
- Powder portioner
- Portioner drive

Reset with C on display counter see machine data ▷ counter ▷ portioner

Replace battery control at F 157

The battery of the control unit must be replaced when the error message F 157 is reported

Procedure for battery replacement analogy to service-maintenance, error message report F 157.

Resetting of error list is automatic when battery is replaced.

Maintenance operations in Key Operator mode

The replacement of components is described in the chapters service-maintenance and revision.

Summary of maintenance messages:

3.10 Additional setting options via laptop (KonfigTool)

Page software update

- Select company logo
- Load selectable languages from the display into the machine (aside from German and English a maximum of five additional languages)
- Load predefined machine

Page cleaning

- Deactivate forced cleaning
- Set last descaling date
- Deactivate display of descaling message (from version 03.03.01)

If these settings are changed customers must principally be made aware of the risks of clogging and malfunctions due to descaling and lack of cleaning in writing.

The notices to the customer regarding warranty in chapter safety in the user manual apply regardless of the settings for cleaning and descaling.

Page maintenance dates

- Contact data of service technician with phone number

Page PIN

- Block menu items
- Set accounting of unit numbers to “not deletable”

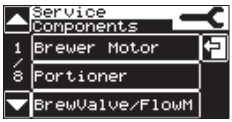
Page grounds container

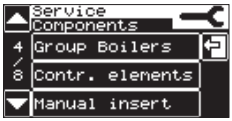
- Set capacity

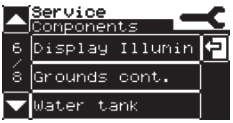
4 Software components test

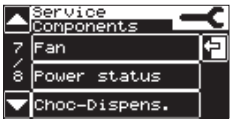
4.1 Component tests overview

Depending on the machine configuration the following tests are available in the software:







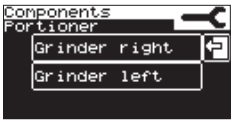


4.2 submenu brewer motor

	Run brewer to end switch
	Run brewer up
	Run brewer down

End switch: 0001 end switch contacted
Current (mA): Display value during procedure

4.3 submenu portioner



	Test right grinder
	Test left grinder
	Test powder portioner for choc or topping-

Current (mA): Value during portioning procedure is displayed

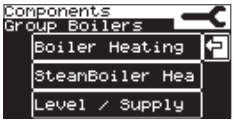
During the test the grounds container must be in position and the adjustable screen closed as the brewer receives the coffee powder during the test and dumps it afterwards.

4.4 Valves

During the test additional data is displayed, e.g. the maximum current consumption of the valve(s) or the number of flowmeter pulses.

When testing the brewer valve the brewer must be in functioning condition as it receives the brewing water during the test and discharges it afterwards.

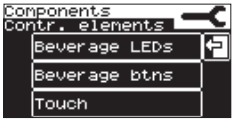
4.5 submenu SBHWB group (steam boiler and hot water boiler)



Additional data during tests:
Heating units: display of condition and current temperature.

Level/feeding:
- - button: The level in the steam boiler is lowered via the steam valve.
+ - button: The level in the steam boiler is raised by the supply valve.
Liquid level: the current capacitative value of the sound is displayed. The trigger value at which the steam boiler is detected as "full" is 180 digits.
Normally the "full" value is at 212 digits.

4.6 submenu control elements



Beverage button LEDs are subsequently addressed
Test beverage buttons by pushing them
Test touch fields on the display by touching them

4.7 Current supply

Switch the 24/30 V circuits on and off from the mains.

4.8 Backup battery

During the test the battery is short-circuited. This procedure shortens battery life.

4.9 Display illumination

The display illumination can be switched off for testing.

4.10 Grounds container

Display if the micro switches switch the 24 V circuits of the grounds container and the adjustable screen.

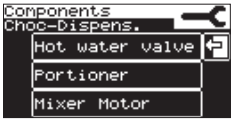
4.11 Fan

Test of function and current consumption

4.12 Power status

Report “power failure” to the control unit

4.13 submenu choc dispenser / topping



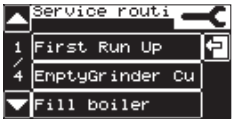
Test choc valve

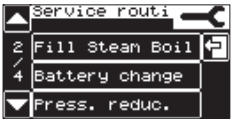
Test the portioner, the choc valve is also addressed

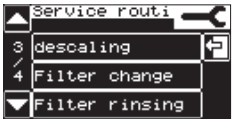
Test mixer motor

5 Software service routines

5.1 Service routines overview







5.2 First Run up

The software is restarted, with a "reset event" entered into the laptop ring memory (see chapter "service", reset events).
The cleaning obligation is reset as if a cleaning cycle had just been done.
A cleaning cycle can be interrupted.
A descaling cycle can be interrupted.

See chapter software, First Run up in the training manual part 4 software

Attention: If a cleaning or descaling cycle has been interrupted adequate measures must be taken to ensure that no residues of cleaning or descaling agents remain in the machine. In this case cleaning or descaling must be repeated.

The reset of the customer settings program is treated in the same way by the software, however does not reset the cleaning and descaling obligations.

5.3 Idling current grinder

For a correct "empty" report the grinder idling current must be entered into the system as base following the entering of the factory values or motor replacement. This is done via a service routine.

See chapter software, grinder idling current part 4 software

See chapter engineering, portioner, grinder with motor in the training manual Part 2 Engineering

Notices for technicians
The idling current must by all means be determined with the grinder completely empty.

5.4 Filling the boiler

At the first setup of a machine delivered by the factory the first filling is done automatically as part of the setup routine.
The boiler is filled for 300 seconds. It makes no difference if it has already been filled or not. Excess water is discharged into the drip tray via the expansion tube.

In normal operation an empty boiler does not automatically fill itself when the steam boiler electrode is touched. In machines without steam boiler filling is always run for 300 seconds during first putting into operation.

5.5 Filling the steam boiler

At the first setup of a machine delivered by the factory the first filling is done automatically as part of the setup routine.
The steam boiler is filled via the supply valve until the electrode reports "contact". The air escapes via the steam dispensing or cappuccino valve (according to specifications) as filling an empty boiler up to the electrode is impossible against the air cushion.

Without de-aerating via this routine (e.g. following replacement) a boiler cannot be filled against an air cushion inside.

5.6 Exchanging control battery at F 157

At error message 157 the control battery must be replaced.

The notices on the display are to be followed:
All data is stored in the service memory.
✻ Disconnect machine from mains
✻ Exchange battery
As soon as the machine is reconnected to the mains all data is automatically loaded into the service memory.

5.7 Depressurization

Temperature and pressure are reduced under control, also in cases of overpressure, e.g. following a malfunction of the heating switch and overheating of the boilers.

Before opening the screw connections in the boiler water system this routine must be run for safety reasons.

5.8 Descaling

The same function as in the customer care menu.

5.9 Filter replacement

The same function as in the customer care menu.

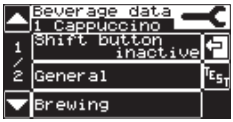
5.10 Filter rinse

The same function as in the customer care menu.

6. Beverage data

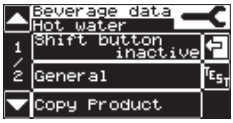
6.1 Beverage data overview

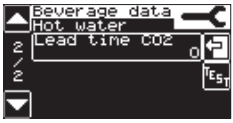
Overview of beverage data main menu e.g. cappuccino



Shift key: active = beverage on the 2. level is set
General: Set recipe, portioner, amounts of powder and water
Brewing: Set pre-treatment, dry pressing pause, multiple pressing and water amount for warm rinse
Milk: set dosage time 1 (e.g. milk) and 2 (e.g. foam) and beverage-specific foam quality

Overview of beverage data main menu e.g. hot water





General: Set recipe and dosage variation
Water: Set dosage amount

6.2 Additional laptop setting options (KonfigTool)

Page customer\general item pretreatment:
- User-defined pretreatment setting possible (Pressing, pre-infusion, wet pressing, warm rinse)

Page customer\general item variety text:
- Random variety text

Page general:
- Multiple brewing (e.g. for a pot of coffee)

7 Error messages and events

7.1 Display messages

Operation messages

Water tank is empty or not inserted

Shut-off valve is closed or flowmeter malfunction

If temperature in boiler or steam boiler too low.

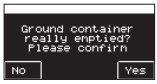
During automatic (following first heating) or manual (via warm rinse button) warm rinse.

Beans left idling current detected.

Beans right idling current detected

Grounds container at full limit (Default 200 seconds grinding-time of grinders).

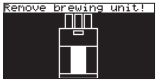
Micro switch grounds container or micro switch adjustable screen without contact.



If grounds container was drawn out for more than 5 seconds.

With Aquaflex only:
Water in tank but set to permanent water supply

Cleaning messages



Brewing unit not detected following closing of door or inserting of grounds container.

A flow error has occurred during the cleaning program.

With machines without drain connection and after cleaning with switching off at next switching on of the machine.

Maintenance and care messages

After 10,000 / 15,000 brewings or one year

After 30,000 brewings or 2 years

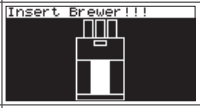
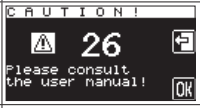
After 90,000 brewings or 6 years

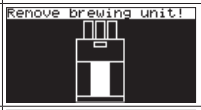
With machines with constant water connection

With water tank machines

7.2 Error list

See training manual in part 6 chapter troubleshooting

Report Display	Descr.	Entry ring mem.	Entry display	Comment	No. malfunction memory	
2	F2 Brewer without electricity	√	√		195	
5	F5 Brewer shutoff	√	√		198	
6	F6 Brewer over current	√	√		253	
7	F7 Brewer timeout (no electricity)	√	√		254	
26	F26 Portioner current malfunction	√	√		1	
36	F36 Current malfunction Portioner 2	√	√		3	
46	F46 Current malfunction Portioner 3	√	√	not implemented	5	not implemented
87	F87 Boiler sensor damaged	√	√		40	
88	F88 boiler excess temperature	√	√		39	
89	F89 boiler heating time	√	√		41	

Report Display	Descr.	Entry ring mem.	Entry display	Comment	No. malfunction memory	
130	F130 General current malfunction	√	√	Short circuit if immediately at switching-on 24/30 V present	28	not implemented
149	F149 General voltage malfunction	√	√	If short circuit is present in 24/30V systems	86	
161	F161 flowmeter malfunction during brewing	√	√		241	
162	F162 flowmeter malfunction during cleaning	√	√		242	
163	F163 flowmeter malfunction during checking	√	√		243	
164	F164 flowmeter malfunction during hot water dosage	√	√		244	
165	F165 flowmeter malfunction during choc dosage	√	√		245	
166	F166 flowmeter malfunction during DK feeding	√	√		246	
167	F167 flowmeter malfunction during descaling	√	√		167	
186	F186 timeout during steam boiler filling	√	√		247	
187	F187 Steam boiler sensor damage	√	√		232	
188	F188 Excess temperature in steam boiler	√	√		231	

Report Display	Descr.	Entry ring mem.	Entry display	Comment	No. malfunction memory	
189	F189 Heating-time steam boiler	√	√		43	
9061	Standby Event	√		Coming and going	61	Coming and going
9062	Reset Event!	√		Coming and going	62	
9104	Timer function not possible	√	√	Machine cannot switch off due to cleaning in progress	9104	
	Fifo was deleted	√	√		9118	
	Defaults into RAM	√	√		9119	
	Defaults into flash	√	√		9120	
	Machine cleaning in progress	√		internal	9125	internal
	Milk foam cleaning in progress!	√		internal	9126	internal
	Cleaning was interrupted	√	√	due to an error in the cleaning program	9136	Display cleaning obligation
	Mixer cleaning in progress	√		internal	9180	
	AD-transformer ready! (for developers only)	√	√	internal	9236	
9248	Malfunction in level sensor	√	√		9248	
9256	Auto detect malfunction: Right grinder not detected	√	√		9256	
9257	Auto detect malfunction: brewing-valve not detected	√	√		9257	
9258	Auto detect malfunction: Oscillating pump not detected	√	√		9258	
9259	Auto detect malfunction: Release valve not detected	√	√		9259	
9269	Auto detect malfunction: Fan not detected	√	√		9260	
9261	Auto detect malfunction: Hot water dispensing valve not detected	√	√		9261	

Report Display	Descr.	Entry ring mem.	Entry display	Comment	No. malfunction memory	
9262	Auto detect malfunction: Mixer not detected but choc/topping portioner detected	√	√		9262	
9263	Auto detect malfunction: choc/topping portioner not detected but mixer detected	√	√		9263	
9264	Auto detect malfunction: Mixer valve detected but no powder portioner detected or; Hot water-Choc/topping valve not detected but choc/topping portioner detected	√	√		9264	
9265	Auto detect malfunction: Milk pump detected but no cappuccino valve detected or milk pump not detected but cappuccino valve detected	√	√		9265	
	Power supply reports voltage too low	√	√	External mains voltage!	9268	
	Pump switches to pressure -lowering mode (Info = button number)	√	√	Pump pressure lowered. The beverage number is entered into the laptop Info column	9271	Pump pressure lowered, 9271
9275	Reset triggered by customer	√	√		275	9275
9288	MDB communication error coin checker	√	√		288	9288
9289	MDB communication error card reader	√	√		289	9289
9290	MDB communication error banknote reader	√	√		290	9290
9291	24 V are switched off and then on again (reset for MDB equipment on 24 V)	√	√		291	9291

7.3 Reasons for reset

No.	Reason	Comment
10	Error handling for message buffer overrun	
11	Switching to boot mode	
12	Trigger first start up (CFG tool)	
13	MDAT copy (CFG tool)	
25	End virtual mode	
26	Copy reset of machine data	
27	First run up via service menu	
29	Debug button	
40	Watchdog internal error	
41	Watchdog external error	
42	Reset	RST_k_OFFSET
43	Reset via WDT or miscellaneous	RST_k_RESET
44	Reset via PWS on	RST_k_PWSON
45	Reset via PWS off	RST_k_PWSOFF
46	Reset via service mode	RST_k_SERVICE
47	Reset via timer mode ON	RST_k_TIMERON
48	Reset via timer mode OFF	RST_k_TIMEROFF
49	Reset via cleaning cycle with switch off	RST_k_RMASCHOFF
50	Reset via cleaning cycle	RST_k_RMASCH
51	Reset via choc cleaning	RST_k_RSHOK
52	Reset via cleaning milk	RST_k_RMILCH
53	Reset via boot access	RST_k_BOOT
54	Reset unknown	RST_k_UNKNOWN
55	Rest after descaling	RST_k_ENTKALKUNG
56	Reset after startup	RST_k_INBETRIEB
57	Reset after filter rinse	RST_k_FILTERSP

7.4 Standby causes

No.	Reason	Comment
0	not used	
1	RESET	Reset consequences
2	PWS OFF	Switching off-on
3	Service mode	Enter or exit
4	Cleaning with switch off	Cleaning with switch off
5	not used	

8 Mechanical settings

8.1 Grinder setting (coarse - fine)

Setting grinder degree
The grinder must be dismantled. The setting-wheel (with worm gear) is dismantled.
- ✻ Turn the grinding-disks towards each other until they join and cannot be turned further by hand on the driveshaft.
- ✻ Fit the setting-wheel with the worm gear.

Espresso grinder (right side)
- ✻ Open the setting-wheel by a total of 10 turns (Grinding-disks with 2 fixing screws).
- ✻ Open the setting-wheel by a total of 12 turns (grinding-disks with 3 fixing screws).

This setting corresponds to setting no. 1 (espresso)

See chapter troubleshooting or user manual or respective error massage no. 161 if powder is too fine.

Cream grinder (left side)
- ✻ Open the setting-wheel for a total of 18 turns (grinding-disks with 2 fixing screws).
- ✻ Open the setting-wheel for a total of 20 turns (grinding-disks with 3 fixing screws).

This setting corresponds to setting no. 5 = cream fineness.
2 turns of the setting-wheel are necessary to adjust the fineness by one degree.
Machines with only one grinder are set to espresso fineness.

Installing replacement grinder:
The replacement grinder is prepared for installation in portioner position 1 and 3 (far right and far left).
For installation at portioner position 2 (center) the auger (grinder fineness setting) and is bearings must be reassembled to the intended position.

8.2 Setting pressure reducer

Setting pressure reducer without laptop

✻ Start service program ▷ service routine ▷ setting pressure reducer ▷ start.
✻ Remove screw-cap on water tank filler.
✻ Screw auxiliary nipple to accept plug-in connector into the water tank filler
✻ Mount auxiliary tool on filler.
✻ Press field **Start**

Supply valve opens

✻ Read pressure on pressure gauge.
✻ Set pressure to 1.8 bar at pressure reducer.
✻ Finish test (machine is turned off).
✻ Dismantle setting equipment and remove auxiliary nipple.
✻ Replace filler cap.

Setting pressure reducer with KonfigTool

✻ Adjust test environment ▷ set pressure reducer ▷ start
✻ Remove filler screw-cap
✻ Screw auxiliary nipple to accept plug-in connector into the water tank filler.
✻ Mount auxiliary tool on filler.
✻ Start test on laptop

Supply valve opens

✻ Read pressure on pressure gauge.
✻ Set pressure to 1.8 bar at pressure reducer.
✻ Finish test
✻ Dismantle setting equipment and remove auxiliary nipple.
✻ Replace filler cap.

9 Maintenance schedules

9.1 Customer check-up

Customer check-up kit 1/10.000 33.2828.7000

No.	Description	Order number
1	O-Ring 8x2 mm	33.1580.3000
2	Milk foamer compl.	33.2259.8000
4	Mixer spout	33.2296.2000
5	Mixer hose 20 cm	00.0048.0064
6	Milk hose 100 cm	00.0048.4948
7	Milk nozzle 1.4 mm white	33.9516.9000
	Milk nozzle 1.3 mm green	33.2317.8000
8	O-Ring 5,28 x 1,78 mm	33.0398.4000
9	O-Ring 3,68 x 1,78 mm	33.0394.4100
10	O-Ring 37 x 3,5 mm	33.7006.5190
11	O-Ring 7,65 x 1,78 mm	33.0396.1000
12	O-ring grease	33.2179.9000

Customer check-up routine

- ✻ Replace parts of combination spout
- ✻ Replace O-rings of brewing unit
- ✻ Replace water tank O-rings

9.2 Service-maintenance

9.2.1 Maintenance sets (Service level 2) for service-maintenance 2/30.000

Maintenance set 33.2828.5000 for basic machine with fresh milk option (includes 33.2828.8000 and 33.2828.9000).

Maintenance set for basic machine 33.2828.8000			
Parts	*Belongs to*	*Part number*	*Amount*
Milk foamer - complete	Basic machine	3322598000	1
Water tank O-ring	Basic machine	3303961000	1
Brewer compl.	Basic machine	3328236099	1

Parts	*Belongs to*	*Part number*	*Amount*
Brewer valve, hot water dispensing valve	Basic machine	3322739000	2
Release valve	Basic machine	3322745000	1
Solenoid part for release valve *	Basic machine	3322737000	1
SV 16 bar Boiler	Basic machine	3322970099	1
Fan	Basic machine	3316621200	1
Branch pipe 45°	Basic machine	3321238000	1
Hose	Basic machine	0000480042	1
Battery	Basic machine	3322633000	1
Steam nozzle compl.	Basic machine	3328246000	1
Y piece	Basic machine	3322666000	1
Grease	Basic machine	3321799000	1
Cable tie	Basic machine	3306493000	1
Connector	Basic machine	3322956000	1
Fuse	Basic machine	3314719000	1
Plug-and-socket connection	Basic machine	3314480000	1
* Only temporary in maintenance set			
Additional maintenance set for fresh milk 33.2828.9000			
Parts	*Belongs to*	*Part number*	*Amount*
SV 12 bar steam boiler	with milk	3322992099	1
Milk hose 50 cm	with milk	0000484948	1 m
Milk nozzle 1.4 mm white	with milk	3395169000	1
Milk nozzle 1.3 mm green	with milk	3323178000	1
Capp. valve	with milk	3322739000	1
Cable tie	with milk	3306493000	1
Additional maintenance set choc/topping 33.2828.6000			
Parts	*Belongs to*	*Part number*	*Amount*
Mixer compl.	Choc/topping	3328201000	1
Valve	Choc/topping	3322739000	1
Mixer spout	Choc/topping	3322962000	1
Mixer hose 20 cm	Choc/topping	0000480064	0,20m
Hose connection	Choc/topping	3322691000	1

9.2.2 Service/maintenance routine 2/30.000 (Service level 2)

The following tools are needed:
- Philips screwdrivers short and long
- Torque screwdriver TX20
- Multitool
- 14 and 17 mm open-ended wrenches
- Wire cutter
- Flat nose pliers

Machine with fresh milk, without choc/topping, water tank model

✻ Preparing the machine
✻ Open coffee machine
✻ Replace fan and suction hose
✻ Replace safety valves
✻ Replace solenoid valves
✻ Replace steam nozzle and Y-piece
✻ Replace spout
✻ Fit milk hose
✻ Replace battery
✻ Replace coffee delivery
✻ Replace brewing unit
✻ Close coffee machine
✻ Restarting
✻ Settings

Additional work for machines with choc/topping

✻ Replace mixer (part 18) and fit mixer spout
✻ Replace mixer valve and mixer delivery
✻ Settings

Additional work for worn grinding-disks

✻ Replace grinding-disks
✻ Settings

9.3 Revision

9.3.1 Maintenance sets for revision 6/90.000 (Service level 3)

Basic machine with 1 grinder without steam without milk with water tank

Parts	*Belongs to*	*Part number*	*Amount*
Milk foamer complete	Basic machine	3322598000	1
Water tank O-ring	Basic machine	3303961000	1
Brewer compl.	Basic machine	3328236099	1
Brewer valve, hot water dispensing valve	Basic machine	3322739000	2
Release valve	Basic machine	3322745000	1
Solenoid part for release valve *	Basic machine	3322737000	1
SV 16 bar Boiler	Basic machine	3322970099	1
Fan	Basic machine	3316621200	1
Branch pipe 45°	Basic machine	3321238000	1
Hose	Basic machine	0000480042	1
Battery	Basic machine	3322633000	1
Steam nozzle compl.	Basic machine	3328246000	1
Y piece	Basic machine	3322666000	1
Grease	Basic machine	3321799000	1
Cable tie	Basic machine	3306493000	1
Connector	Basic machine	3322956000	1
Fuse	Basic machine	3314719000	1
Plug-and-socket connection	Basic machine	3314480000	1

Additional parts 6/90,000		
Parts	*Part number*	*Amount*
Lock washer	0000472225	1
Coffee delivery	3322956000	1
Fuse	3314719000	1
Brewing-water delivery	3322697000	1
Brewer motor	3370063322	1
Boiler temperature sensor	3322624000	1
Gasket CU	3370068423	1
Boiler	3322760099	1
Temperature limiter	3322636000	2
Cable ties for boiler insulators	3322732000	2
Hood	3322729000	1
Hood for tower and choc	3322730000	2
Gasket CU	3300601000	2
Oscillating pump	3322514000	1
Hose - complete	3322535000	1
All hoses (see tube plan)		
All Plug-in connections (see tube plan)		
Grinder complete	3370064022	1
Motor	3322532000	1
Flowmeter water tank	3322503000	1
Hose (water tank)	0000484948	0,7

Steam only

Parts	*Part number*	*Amount*
Valve (steam valve)	3322739000	1
SV 12 bar steam boiler	3322992099	1
Steam boiler	3322770099	1
Electrode	3328205199	1
Temperature limiter	3322636000	2
Steam boiler temperature sensor	3322624000	1
Cable ties for steam boiler insulators	3322732000	2

Milk only no steam

Parts	*Part number*	*Amount*
SV 12 bar steam boiler	3322992099	1
Milk hose 100 cm	0000484948	1 m
Milk nozzle 1.4 mm white	3395169000	1
Milk nozzle 1.3 mm green	3323178000	1
Cappuccino valve	3322739000	1
Steam boiler	3322770099	1
Electrode	3328205199	1
Temperature limiter	3322636000	2
Steam boiler temperature sensor	3322624000	1
Cable ties for steam boiler insulators	3322732000	2
Air pump	3323230000	1

Milk and Steam

Parts	*Part number*	*Amount*
Valve (steam valve)	3322739000	1
SV 12 bar steam boiler	3322992099	1
Steam boiler	3322770099	1
Electrode	3328205199	1
Temperature limiter	3322636000	2
Steam boiler temperature sensor	3322624000	1
Cable ties for steam boiler insulators	3322732000	2
Milk hose 100 cm	0000484948	1
Milk nozzle 1.4 mm white	3395169000	1
Milk nozzle 1.3 mm green	3323178000	1
Cappuccino valve	3322739000	1
Air pump	3323233000	1

2nd grinder

Parts	*Part number*	*Amount*
Grinder complete	3370064022	1
Motor	3322532000	1

Constant water connection

Parts	*Part number*	*Amount*
Complete constant water connection (Supply valve, press. red., flowmeter, hose)	3328226199	1
Hose	0000480015	0,78
Flowmeter water tank	3322503000	-1
Hose (water tank)	0000484948	-0,7

Choc

Parts	*Part number*	*Amount*
Maintenance set 2/06	3328285000	1
Oval choc hopper complete	3328235000	1
KMP choc/topping drive	3322517000	1
Drive actuator	3323215000	1

Topping

Parts	*Part number*	*Amount*
Maintenance set 2/06	3328285000	1
Oval topping hopper complete	3328248000	1
KMP choc/topping drive	3322517000	1
Drive actuator	3323215000	1

9.3.2 Revision routine

- Philips screwdrivers short and long
- Torque screwdriver TX20
- Multitool
- Open-end wrenches 8, 12, 14, 15 and 17 mm
- Wire cutter, spring circlip pliers
- 8 and 5.5 mm socket wrenches
- Flat nose pliers

9.3.3 Coffee machine revision

✻ Preparing the machine
✻ Open coffee machine
✻ Replace fan and discharge suction hose
✻ Remove safety valves
✻ Remove valves
✻ Remove external boiler parts
✻ Dismantle boiler
✻ Remove external boiler parts (optional)
✻ Dismantle steam boiler

✻ Prepare external boiler and steam boiler (optional) parts
✻ Replace oscillating pump
✻ Replace flowmeter or supply group
Supply group is optional with coffee machines with Constant water connection

Water tank machine:

Constant water connection:
✻ Dismantle the filler nipple of the flowmeter feeder.
✻ Dismantle brewer motor bracket
✻ Replace brewer motor
✻ Replace brewer media deliveries
✻ Refit brewer motor
✻ Prepare new boiler for mounting
✻ Mount boiler
✻ Prepare new steam boiler (opt,) for mounting
✻ Mount steam boiler (optional)
✻ Mount and connect solenoid valves
✻ Replace complete grinder
✻ Replace air pump
✻ Replace steam nozzle and Y-piece
✻ Mount milk hose
✻ Replace battery
✻ Replace brewing unit
✻ Checks
✻ Close coffee machine
✻ Putting back into operation
✻ Settings

During maintenance, pay special attention to:
- Water leaks - a screw connection might not be properly tightened.
- Rattling noises - a hose or some other part might be vibrating.

Additional work for machines with choc/topping
✻ Choc/topping drive
✻ Replace mixer
✻ Replace mixer valve